



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/611,384	07/01/2003	Keith R. Stebbings	AMETEK 02.02	1521
7590 06/07/2005 Attention of Norman P. Soloway HAYES SOLOWAY P.C. 130 W. Cushing Street Tucson, AZ 85701			EXAMINER TANINGCO, MARCUS H	
			ART UNIT 2878	PAPER NUMBER

DATE MAILED: 06/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/611,384

Applicant(s)

STEBBINGS, KEITH R.

Examiner

Marcus H. Taningco

Art Unit

2878

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 April 2005.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 21 is/are allowed.
- 6) ☒ Claim(s) 1-3, 5, 7, 10-13, 15, 19 and 20 is/are rejected.
- 7) ☒ Claim(s) 4, 6, 8, 9, 14, 16-18 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 April 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

The information disclosure statement filed 5/9/05 fails to comply with 37 CFR 1.98(a)(1), which requires the following: (1) a list of all patents, publications, applications, or other information submitted for consideration by the Office; (2) U.S. patents and U.S. patent application publications listed in a section separately from citations of other documents; (3) the application number of the application in which the information disclosure statement is being submitted on each page of the list; (4) a column that provides a blank space next to each document to be considered, for the examiner's initials; and (5) a heading that clearly indicates that the list is an information disclosure statement. The information disclosure statement has been placed in the application file, but the information referred to therein has not been considered.

Drawings

The drawings were received on 04/01/05. These drawings are acceptable.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 5, 7, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schneider et al. (US 6,013,919).

Re claims 1 and 5, Schneider et al. teaches a flame sensor comprising: a photodiode **D4** to detect an input signal (Col. 2, 44-48); an amplifier **U1A** to amplify the input signal and provide an output signal (Col. 2, 50-52); means **Q1** for providing an automatic gain control (Col. 4, 24-26); and at least one capacitor providing stability to the output signal of the amplifier (Fig. 1). Although Schneider et al. fails to specify the aforementioned electronic circuitry formed on a multi-layer printed circuit board (PCB), it would have been obvious to one with ordinary skill in the art at the time the invention was made to fabricate the electronic circuitry taught by Schneider et al. onto a PCB to provide improved connections between each component and a tolerance for high temperatures. Schneider et al. also fails to teach a capacitor formed from a capacitance laminate buried in said PCB. However, in the art of capacitors, it is well known and conventional that laminate capacitors are used to replace discrete capacitors due to its electrical performance advantages. Therefore, it would have been obvious to one with ordinary skill in the art at the time the invention was made to modify Schneider et al. with laminate capacitors to provide better performance at high-frequencies and high temperatures with a lower impedance.

Re claim 2, Schneider et al. teaches a flame sensor operable in high temperatures as high as 250 degrees Celsius (Col. 3, 57-67; Col. 4, 1-5).

Re claim 3, Schneider et al. teaches a flame sensor but fails to specify at least one guard band on each layer of the PCB. It would have been obvious to one with ordinary skill in the art at the time the invention was made to modify Schneider et al. with guard bands since it is known

Art Unit: 2878

in the art of PCB's that guard bands are a form of shielding used to provide better damping and better protection from interfering radiation.

Re claim 7, Schneider et al. teaches a flame sensor comprising a low pass filter (Fig. 1).

Re claim 10, Schneider et al. teaches a flame sensor with a response time in the range of 25 milliseconds (Col. 3, 1-8).

Re claims 11 and 15, Schneider et al. teaches a flame sensor comprising: a housing having a window (lens) (Col. 4, 45-58); a photodiode **D4** to detect an input signal (Col. 2, 44-48); an amplifier **U1A** to amplify the input signal and provide an output signal (Col. 2, 50-52); means (FET) for providing an automatic gain control (Col. 3, 9-26); and at least one capacitor providing stability to the output signal of the amplifier (Fig. 1). Although Schneider et al. fails to specify the aforementioned electronic circuitry formed on a multi-layer printed circuit board (PCB), it would have been obvious to one with ordinary skill in the art at the time the invention was made to fabricate the electronic circuitry taught by Schneider et al. onto a PCB to provide improved connections between each component and a tolerance for high temperatures.

Schneider et al. also fails to teach a capacitor formed from a capacitance laminate buried in said PCB. However, in the art of capacitors, it is well known and conventional that laminate capacitors are used to replace discrete capacitors due to its electrical performance advantages.

Therefore, it would have been obvious to one with ordinary skill in the art at the time the invention was made to modify Schneider et al. with laminate capacitors to provide better performance at high-frequencies and high temperatures with a lower impedance.

Re claim 12, Schneider et al. teaches a flame sensor operable in high temperatures as high as 250 degrees Celsius (Col. 3, 57-67; Col. 4, 1-5).

Art Unit: 2878

Re claim 13, Schneider et al. teaches a flame sensor but fails to specify at least one guard band on each layer of the PCB. It would have been obvious to one with ordinary skill in the art at the time the invention was made to modify Schneider et al. with guard bands since it is known in the art of PCB's that guard bands are a form of shielding used to provide better damping and better protection from interfering radiation.

Re claim 19, Schneider et al. teaches a flame sensor comprising a low pass filter (Fig. 1).

Re claim 20, Schneider et al. teaches a flame sensor with a response time in the range of 25 milliseconds (Col. 3, 1-8).

Allowable Subject Matter

Claim 21 is allowed.

Claims 4, 6, 8, 9, 14, and 16-18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Claims 4 and 14 recite the limitation of a flame sensor comprising guard bands disposed at substantially identical positions in each layer of the PCB.

Claims 6 and 16 recite the limitation of a flame sensor comprising tracks of equal potential disposed at substantially identical locations on each of the interior layers of the PCB.

Claims 8 and 17 recite the limitation of a flame sensor comprising guard bands on each layer of the PCB that are substantially identically shaped.

Art Unit: 2878

Claims 9 and 18 recite the limitation of a flame sensor comprising tracks on each layer of the PCB that are substantially identically shaped.

Claim 21 recites the limitation of a method for producing a UV flame sensor comprising the step of placing the guard bands in identical positions on each layer of the PCB and mimicking tracks of equal potential on the interior layers of the PCB.

Response to Arguments

Applicant's arguments filed 04/01/05 have been fully considered but they are not persuasive. Applicant's major argument is that Schneider et al. fails to provide a transistor and at least one capacitor performing gain control and output signal stability, respectively. The Examiner respectfully disagrees. Schneider et al. discloses a transistor **Q1** configured in the feedback circuit of amplifier **U1A** to control the gain (Col. 4, 24-26). Furthermore, Schneider et al. discloses at least one capacitor providing stability to the output signal of the amplifier (Fig. 1) and in the art of capacitors, it is well known and conventional that laminate capacitors are used to replace discrete capacitors due to its electrical performance advantages. Thus, the Examiner must respectfully disagree with the applicant.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO**

Art Unit: 2878


MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marcus H. Taningco whose telephone number is (571) 272-1848. The examiner can normally be reached on M - F 8:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Porta can be reached on (571) 272-2444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MT


DAVID PORTA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800